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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
20301B ASSAULT BREAKER, MISSILE NUMBER FTV-2; ROUND NUMBER V2A1--ETC(U)
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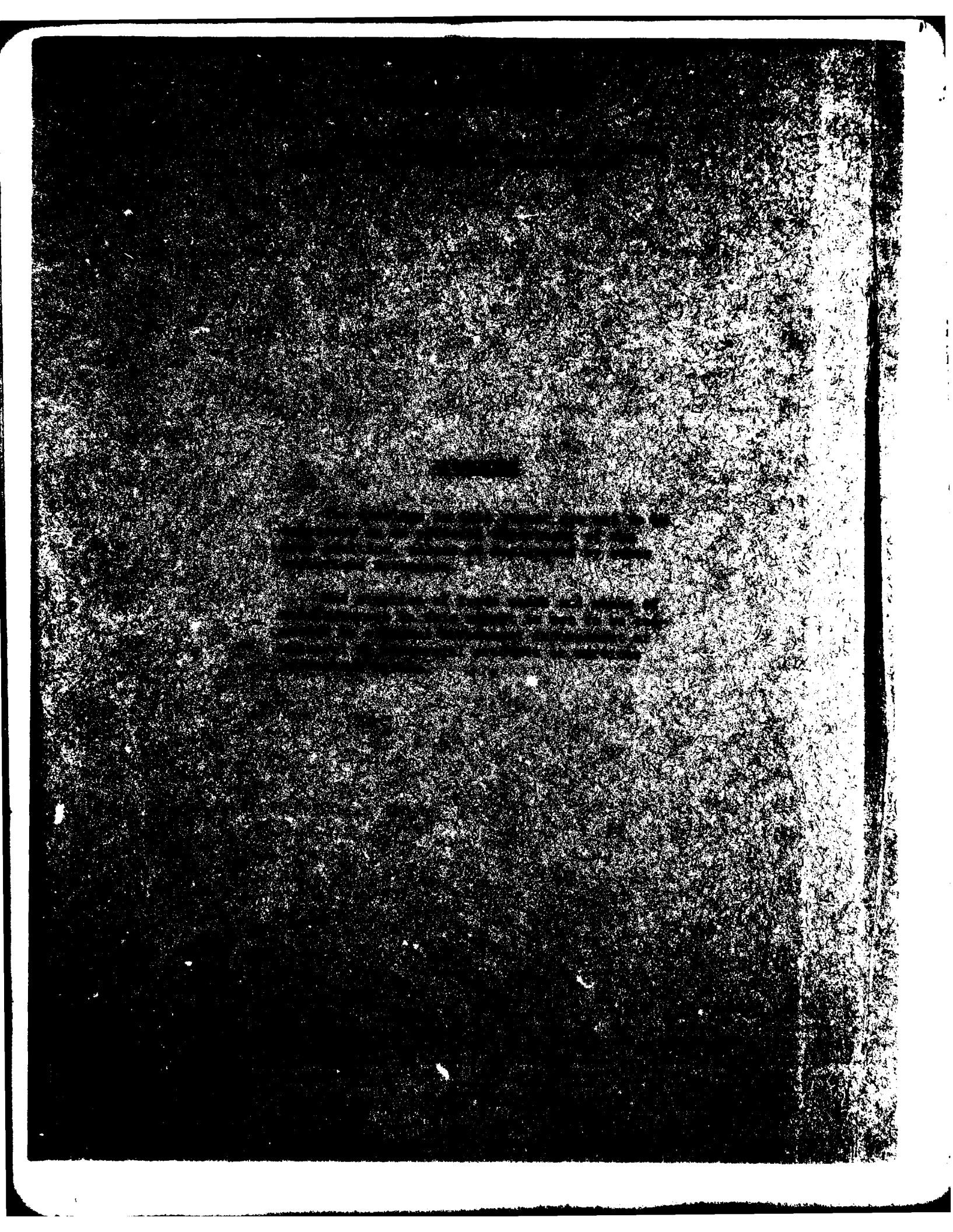
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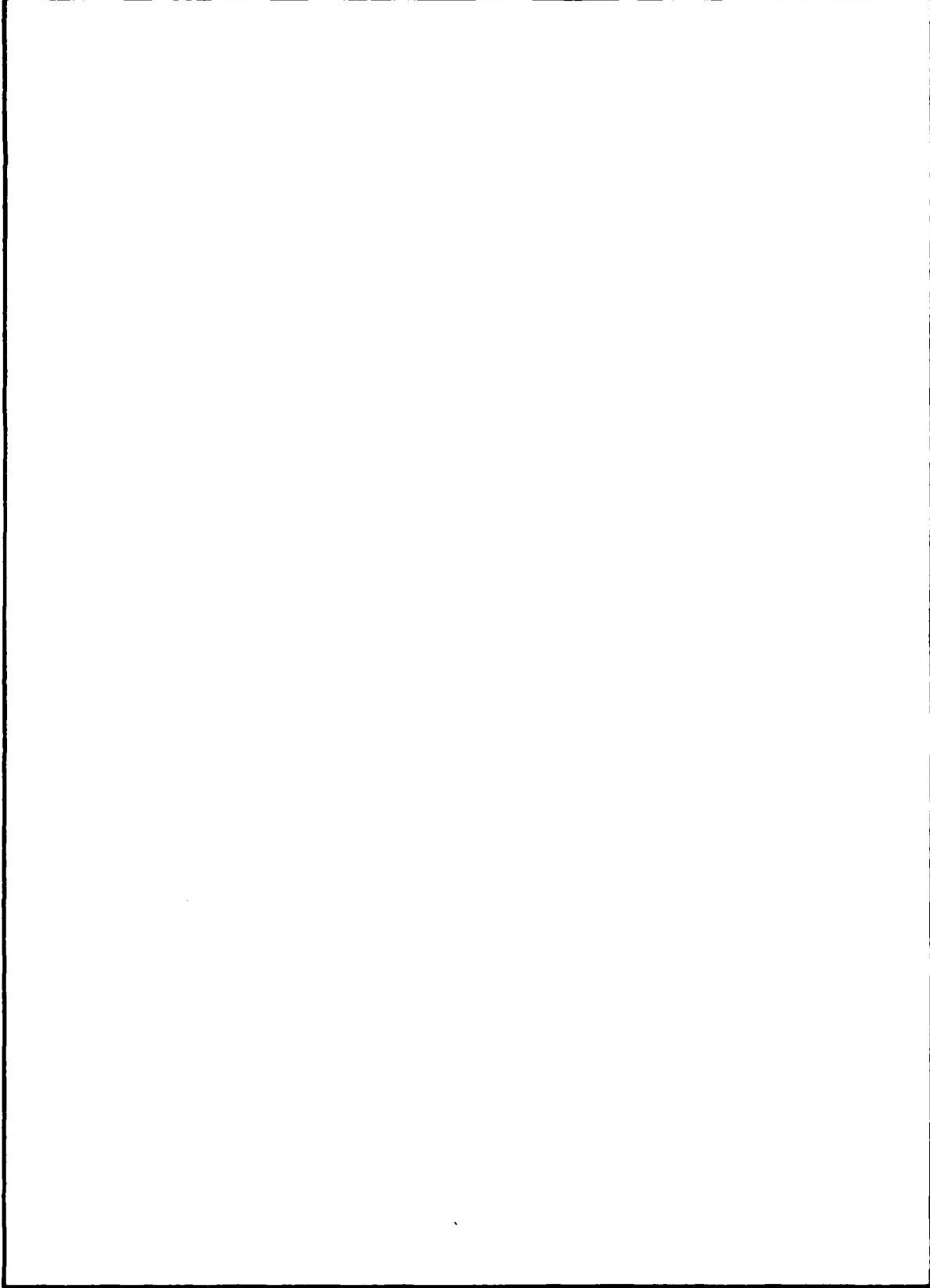


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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 20301B Assault Breaker, Missile Number FTV-2, Round Number V2A1 presented in tabular form.		

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INTRODUCTION

20301B Assault Breaker, Missile Number FTV-2, Round Number V2A1, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0919 MDT, 24 June 1981. The scheduled launch time was 0900 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 and Jallen Met Site.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from PAPTS T-9 pibal observation at:

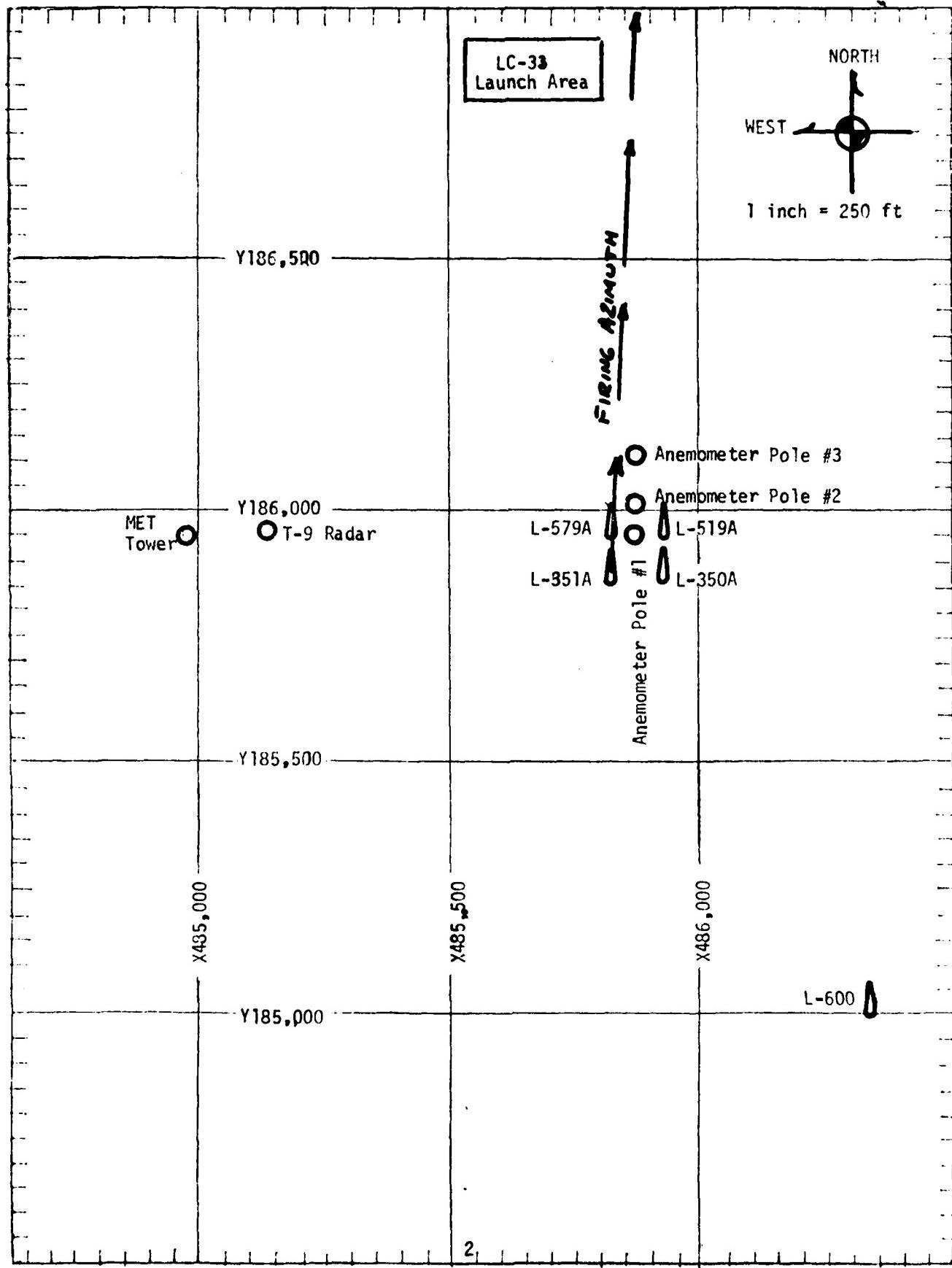
SITE AND ALTITUDE

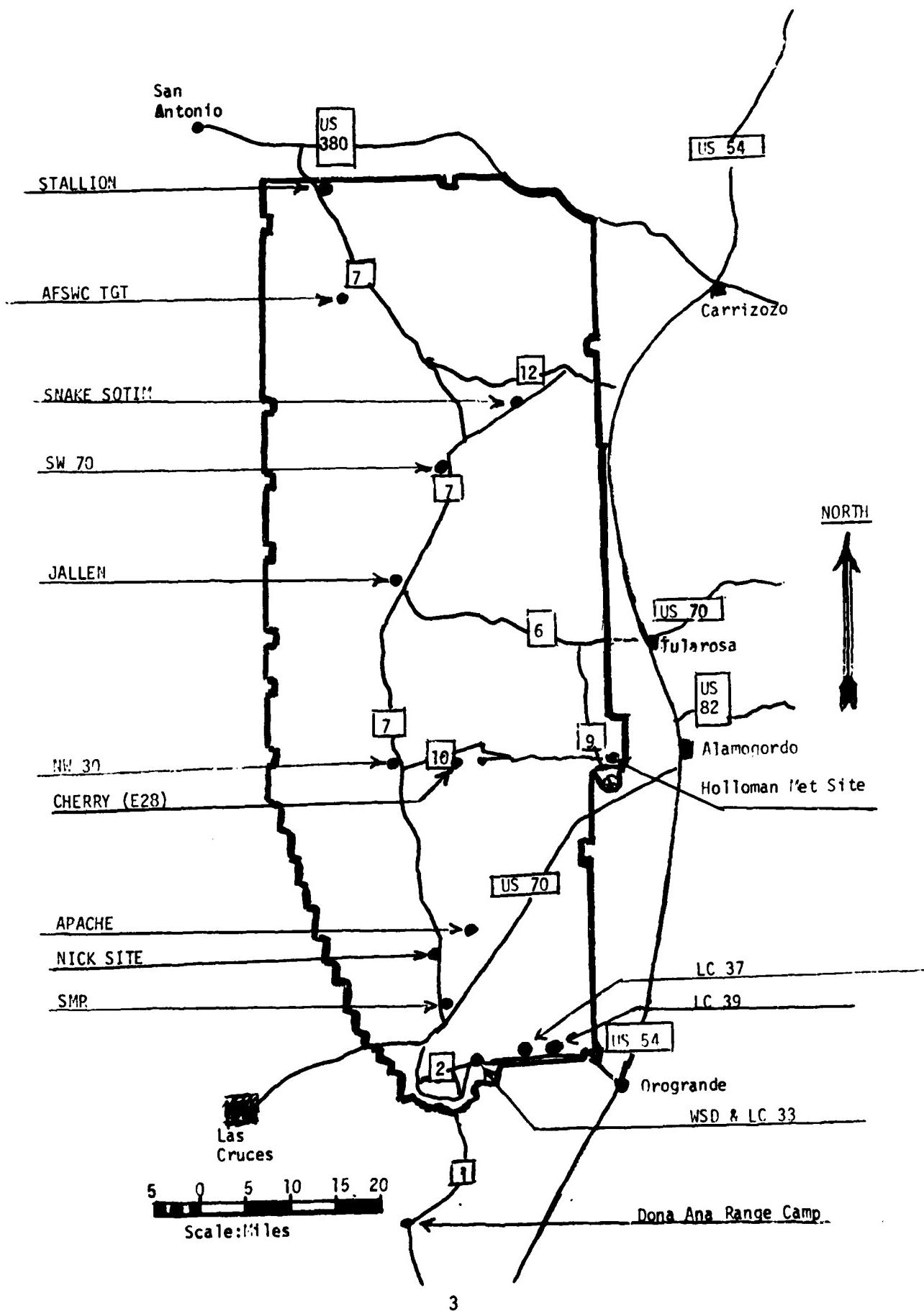
LC-33 2730 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-feet increments.

SITE AND TIME

NW30	0630 MDT
JAL	0745 MDT
WSD	0915 MDT
JAL	0915 MDT





PROJECT SURFACE OBSERVATION

TABLE 1

DATE	DAY	MONTH	YEAR					
24	6	81						
TIME	PRESSURE mb	TEMPERATURE °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND deg	CHARACTER	VISIBIL- ITY
0919	880.1	28.1	13.1	40	1008	130	05	30

OBSTRUCTIONS to VISIBILITY	CLOUDS			REMARKS		
	1st LAYER AMT	TYPE	HGT	2nd LAYER AMT	TYPE	HGT
	1	CU	7500	3	AC	13000

PSYCHROMETRIC COMPUTATION

TIME:	0919		
DRY BULB TEMP.	28.1		
WET BULB TEMP.	18.1		
WET BULB DEPR.	10.0		
DEW POINT	13.1		
RELATIVE HUMID.	40		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
X485,874.29			X485,874.93			(485,877.2)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	121	05	-30	138	MISG	-30	162	06
-20	121	06	-20	142	MISG	-20	153	07
-10	121	06	-10	135	MISG	-10	154	07
0.0	121	06	0.0	149	MISG	0.0	151	07
+10	123	06	+10	147	MISG	+10	152	08

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	132	06	-30	126	06
-20	121	06	-20	147	06
-10	121	06	-10	136	05
0.0	138	05	0.0	153	05
+10	143	08	+10	154	05

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	150	07	-30	133	07
-20	153	06	-20	132	07
-10	127	06	-10	133	06
0.0	142	06	0.0	126	06
+10	142	05	+10	123	06

PILOT BALLOON MEASURED WIND DATA

TABLE

4

RELEASED FROM LC-33 E & A DATE 24 Jun 81 TIME 0919 MDT

COORDINATES (WSTM) X = 485,135.76 Y = 185,919.24 U = 3988.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO _____.

HEIGHTS ARE METERS AGL XX OR FEET AGL _____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
sfc	130	05
30	125	06
90	115	05
150	137	05
210	140	05
270	156	04
330	114	04
390	108	03
450	090	01
510	172	02
570	326	02
630	338	02
690	280	04
750	282	07
810	288	06
870	303	07
930	293	10
990	300	12
1050	297	12
1110	286	10
1170	290	11
1230	295	17
1290	301	20
1350	295	18
1410	306	14
1470	319	13
1530	336	13
1590	322	12
1650	325	08
1710	329	09
1770	341	13

PROJECT SURFACE OBSERVATION

TABLE 5

DATE 24 JUN 81
DAY MONTH YEAR

STATION JAL-R

X = 450, 362.08 Y = 464, 129.26 H = 4053.51

TIME M--	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION deg Tn	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
0845	877.3	26.4	11.5	40	1012		CALM		50
0915	877.3	27.9	121	3.8	1007		CALM		50
0945	877.2	28.2	13.6	41	1005	170	02		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS	
	1st LAYER		2nd LAYER		3rd LAYER			
AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
None	4	AS	12000	6	CI	20000		
None	3	AS	12000	7	CI	20000		
None	8	CI	20000					

PSYCHROETRIC COMPUTATION

TIME:	0845	0915	0945
DRY BULB TEMP.	26.4	27.9	28.2
WET BULB TEMP.	16.7	175	18.4
WET BULB DEPR.	9.7	104	9.8
DEW POINT	11.5	21.1	13.6
RELATIVE HUMID.	40	38	41

STATION ALTITUDE 4010.40 FEET MSL
 24 JUNE 81 0630 HRS MOT
 ASCENSION NO. 59

SIGNIFICANT LEVEL DATA
 1750220059
 NW 30

GEODDATIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	
			AIR DEWPOINT	DEWPOINT CENTIGRADE
870.5	4010.4	22.6	13.4	56.0
865.0	4487.9	24.6	12.2	46.0
850.0	4992.1	24.6	12.2	46.0
760.4	8163.6	17.7	6.6	48.0
741.8	8860.9	18.4	5.9	44.0
700.0	10483.8	14.3	2.9	46.0
652.0	12441.5	9.9	-0	50.0
616.0	13982.9	5.7	-1.9	58.0
591.0	15093.3	3.0	-3.3	63.0
549.2	17031.3	-2.2	-4.5	84.0
525.0	18203.7	-5.3	-7.9	82.0
500.0	19461.6	-6.8	-11.3	70.0
490.0	19979.5	-8.3	-12.1	74.0
482.9	20352.4	-8.5	-14.1	64.0
469.8	21053.3	-9.5	-15.8	60.0
444.2	22467.8	-13.5	-16.8	76.0
432.2	23151.8	-15.0	-18.9	72.0
416.2	24088.3	-16.6	-21.3	67.0
409.0	24520.1	-16.6	-23.7	54.0
400.0	25070.5	-16.8	-26.4	43.0
353.6	28082.5	-22.9	-34.4	34.0
327.6	29507.9	-27.7	-36.6	42.0
300.0	31967.7	-33.3	-40.9	46.0
290.2	32733.9	-34.7	-41.2	51.0
266.8	34648.5	-39.5	-46.3	38.0
255.6	35609.8	-42.0	-50.2	40.0
250.0	36102.5	-43.3		
233.8	37577.5	-46.6		
203.2	40597.7	-53.5		
200.0	40933.8	-54.0		
171.0	44191.2	-61.5		
150.2	45774.5	-63.3		
150.0	46049.5	-64.7		
138.4	48466.1	-65.7		
131.0	49560.9	-68.1		
109.8	53042.9	-69.9		
100.0	54882.5	-69.2		
94.4	56012.4	-71.4		
80.0	59263.0	-68.6		
77.4	59925.0	-63.3		

STATION ALTITUDE 4010.40 FEET MSL
24 JUNE 81 0630 HRS MDN
ASCENSION NO. 59

SIGNIFICANT LEVEL DATA

17502.0059
NW 30

GEODETIC COORDINATES
32° 88' 49" LAT DEG
106° 49' 71" LONG DEG

TABLE 6 (Con't)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPONT DEGREES	REL. HUM. PERCENT
70.0	61982.3	-59.6	
57.4	66081.9	-59.6	
50.0	68954.7	-56.5	
45.4	70979.5	-56.3	
34.2	76959.1	-54.0	
30.0	79755.9	-51.6	
23.0	85554.5	-44.3	
20.6	88004.8	-43.3	
20.0	88665.2	-42.1	
15.8	93969.2	-40.2	
13.4	97695.6	-39.9	
10.0	104429.2	-32.4	
9.6	105384.6	-31.9	

STATION ALTITUDE 4010.40 FFET MSL
24 JUNE 81 0630 HRS MDT

UPPER AIR DATA
1750220054
NW 30

GEODETIC COORDINATES
32.88497 LAT UEG
106.49714 LON UEG

TABLE 7

GEOGRAPHIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT PERCENT	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4010.4	879.5	22.6	13.4	56.0	1029.1	672.2	350.0	4.1	1.000296
4500.0	864.6	24.6	12.2	46.0	1005.3	674.3	327.8	3.0	1.000285
5000.0	849.8	24.6	12.2	46.0	988.0	674.4	292.7	2.7	1.000281
5500.0	835.0	23.5	11.3	46.3	974.6	673.0	262.7	3.5	1.000275
6000.0	820.4	22.4	10.4	46.6	961.4	671.7	243.2	4.8	1.000269
6500.0	806.2	21.3	9.5	47.0	948.4	670.4	229.8	6.7	1.000263
7000.0	792.1	20.2	8.6	47.3	935.5	669.1	223.0	8.5	1.000258
7500.0	778.3	19.1	7.8	47.6	922.9	667.8	228.1	9.8	1.000253
8000.0	764.8	18.1	6.9	47.9	910.4	666.4	244.4	11.3	1.000247
8500.0	751.4	18.0	6.3	46.1	894.6	666.4	260.1	13.8	1.000242
9000.0	738.1	18.0	5.7	44.2	876.9	666.4	254.8	14.5	1.000237
9500.0	725.0	16.8	4.7	44.8	867.3	664.8	248.2	13.9	1.000232
10000.0	712.2	15.5	3.8	45.4	855.8	663.3	239.6	13.1	1.000227
10500.0	699.6	14.3	2.8	46.0	844.5	661.8	256.1	10.5	1.000223
11000.0	687.0	13.3	2.1	47.1	832.7	660.5	279.3	8.8	1.000218
11500.0	674.7	12.0	1.4	48.1	821.1	659.1	306.4	8.2	1.000214
12000.0	662.5	10.9	.6	49.1	809.6	657.8	323.5	9.4	1.000210
12500.0	650.6	9.7	-1	50.3	798.3	656.4	333.3	11.0	1.000207
13000.0	638.7	8.4	-7	52.9	787.6	654.8	335.9	11.1	1.000203
13500.0	627.1	7.0	-1.3	55.5	777.1	653.2	340.5	11.0	1.000200
14000.0	615.6	5.7	-1.9	58.1	766.7	651.6	349.0	10.9	1.000197
14500.0	604.2	4.4	-2.6	60.3	755.9	650.1	357.8	11.0	1.000193
15000.0	593.1	3.0	-3.2	62.6	745.2	648.7	365	11.3	1.000190
15500.0	582.0	1.9	-3.5	67.4	734.8	647.1	16.2	11.5	1.000187
16000.0	571.1	.6	-3.7	72.8	724.6	645.5	25.7	12.0	1.000185
16500.0	560.4	-8	-4.1	76.2	714.5	643.9	34.7	13.5	1.000182
17000.0	549.9	-2.1	-4.5	83.7	704.6	642.3	41.7	15.4	1.000180
17500.0	539.4	-3.4	-5.9	83.2	694.8	640.7	48.4	18.3	1.000175
18000.0	529.1	-4.8	-7.3	82.3	685.1	639.0	53.3	21.1	1.000171
18500.0	519.0	-5.7	-8.7	79.2	674.3	637.9	57.7	23.2	1.000167
19000.0	509.0	-6.2	-10.0	74.4	663.0	637.1	60.5	24.4	1.000165
19500.0	499.3	-6.9	-11.4	70.3	652.0	636.3	62.2	24.5	1.000163
20000.0	489.6	-8.3	-12.2	73.5	642.8	634.6	59.5	23.4	1.000162
20500.0	479.1	-8.7	-14.4	63.2	631.5	634.0	56.1	22.1	1.000161
21000.0	470.8	-9.4	-15.7	60.3	621.0	633.1	52.5	20.7	1.000160
21500.0	461.6	-10.6	-16.0	65.1	611.9	631.5	50.3	19.4	1.000159
22000.0	452.5	-12.2	-16.4	70.7	603.2	629.8	49.1	18.1	1.000158
22500.0	443.6	-13.6	-16.9	75.8	594.5	628.1	49.1	16.4	1.000157
23000.0	434.8	-14.7	-18.4	72.9	585.3	629.7	49.0	14.5	1.000156
23500.0	426.2	-15.6	-18.8	70.1	575.6	625.6	49.0	12.9	1.000155

STATION ALTITUDE 4910.40 FEET MSL
24 JUNE 11 0630 HRS MDT
ASCENSION NO. 59

UPPER AIR DATA
1750220059
NW 30

GEOGRAPHIC COORDINATES
32° 88' 49" LAT DEG
106° 49' 14" LON DEG

TABLE 7 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	417.7	-16.4	-21.0	67.5	566.2	624.5	47.4	11.4
24500.0	409.3	-16.6	-23.6	54.6	555.4	624.3	46.6	11.2
25000.0	401.1	-16.8	-26.0	44.4	544.7	624.0	47.2	11.0
25500.0	393.0	-17.7	-27.5	41.7	535.6	624.9	55.6	10.8
26000.0	385.1	-18.7	-28.8	40.2	526.9	621.6	65.8	10.4
26500.0	377.3	-19.7	-30.1	38.7	518.3	620.4	82.4	9.6
27000.0	369.6	-20.7	-31.5	37.2	509.8	619.1	93.0	9.3
27500.0	362.1	-21.7	-32.8	35.7	501.5	617.9	93.3	8.9
28000.0	354.8	-22.7	-34.1	34.2	493.4	616.6	85.6	8.5
28500.0	347.5	-24.0	-34.8	35.8	485.7	615.0	71.5	8.6
29000.0	340.3	-25.3	-35.4	38.0	478.2	613.4	64.6	8.1
29500.0	333.2	-26.6	-36.1	40.2	470.8	611.8	59.3	7.2
30000.0	326.3	-28.0	-36.8	42.2	463.5	610.1	46.5	5.7
30500.0	319.4	-29.3	-37.8	43.1	456.2	608.4	25.1	4.6
31000.0	312.7	-30.7	-38.9	44.1	449.1	606.7	1.0	5.0
31500.0	306.1	-32.0	-39.9	45.1	442.1	605.0	344.0	6.1
32000.0	299.6	-33.4	-40.9	46.2	435.1	603.3	336.7	7.3
32500.0	293.2	-34.3	-41.1	49.5	427.4	602.2	333.7	8.7
33000.0	286.8	-35.4	-42.2	49.2	420.1	600.8	335.6	10.2
33500.0	280.6	-36.6	-44.0	45.8	413.2	599.2	337.5	11.7
34000.0	274.5	-37.9	-45.9	42.4	406.4	597.6	339.2	13.1
34500.0	268.5	-39.1	-47.8	39.0	399.7	596.0	336.2	14.2
35000.0	262.6	-40.4	-49.0	38.7	393.1	594.4	331.6	15.1
35500.0	256.9	-41.7	-50.0	39.8	386.6	592.7	326.4	16.5
36000.0	251.2	-43.0	-63.5	8.3*	380.2	591.0	321.4	18.3
36500.0	245.5	-44.2			375.6	589.5	318.0	19.7
37000.0	240.0	-45.3			367.0	588.0	315.5	20.7
37500.0	234.6	-46.4			360.5	586.6	314.0	20.5
38000.0	229.3	-47.6			354.0	585.1	312.9	19.6
38500.0	224.0	-48.7			347.7	583.6	312.9	19.7
39000.0	218.9	-49.8			341.4	582.2	313.5	19.9
39500.0	213.8	-51.0			335.3	580.7	318.4	20.2
40000.0	208.9	-52.1			329.3	579.2	323.2	20.7
40500.0	204.1	-53.3			323.4	577.7	329.6	20.9
41000.0	199.4	-54.2			317.1	576.5	336.3	21.5
41500.0	194.6	-55.3			311.2	575.0	344.5	20.1
42000.0	190.0	-56.5			305.5	573.5	353.8	19.1
42500.0	185.5	-57.6			299.6	572.0	2.0	18.0
43000.0	181.1	-58.8			294.2	570.4	10.9	17.2
43500.0	176.8	-59.9			286.4	568.9	12.6	17.6

** AT LAST ONE ABSOLUTE RELATIVE HUMIDITY VALUE WAS USED IN INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 24 JUNE 1951 0630 HRS MDT
 ASCNSN/NO. 59

UPPER AIR DATA
 1750220059
 NW 30

GEOPHYSIC PRESSURE TEMP. DEGREE'S CENTIGRADE
 ALTITUDE AIR DEGREE'S
 MSL FEET MILLIBARS DEGREES

TABLE 7 (Con't)

GEOPHYSIC ALTITUDE	PRESSURE	TEMPERATURE	REL.HUM.	SPEED OF SOUND	WIND DATA	INDEX OF REFRACTION
MSL FEET	MILLIBARS	AIR DEGREE'S	PERCENT	KNOTS	DIRECTION (TN)	SPEED KNOTS
44000.0	172.6	-61.1	283.5	567.4	12.5	18.2
44500.0	166.4	-61.9	277.7	566.3	15.9	18.9
45000.0	169.3	-62.4	271.7	565.5	21.2	20.0
45500.0	160.3	-63.0	265.8	564.0	28.4	21.1
46000.0	159.1	-63.6	260.1	564.0	38.2	22.5
46500.0	152.6	-64.2	254.5	563.1	47.6	24.2
47000.0	148.9	-64.8	248.9	562.3	58.4	25.7
47500.0	145.2	-65.1	243.2	561.9	68.7	27.8
48000.0	141.6	-65.4	237.5	561.5	80.3	28.1
48500.0	139.2	-65.8	232.1	561.0	91.2	29.5
49000.0	134.7	-66.9	227.5	559.5	99.0	27.0
49500.0	131.4	-68.0	223.1	558.0	106.1	24.9
50000.0	128.1	-68.3	217.9	557.6	109.5	22.2
50500.0	124.9	-68.6	212.7	557.2	109.8	19.4
51000.0	121.8	-68.8	207.7	556.8	106.2	17.4
51500.0	118.7	-69.1	202.7	556.5	100.0	16.0
52000.0	115.8	-69.4	197.9	556.1	94.7	15.2
52500.0	112.9	-69.6	193.2	555.8	90.9	14.8
53000.0	110.0	-69.9	188.6	555.4	86.6	14.6
53500.0	107.3	-69.7	183.7	555.6	81.8	15.0
54000.0	104.6	-69.5	176.9	555.9	76.6	15.2
54500.0	102.0	-69.3	174.3	556.2	69.9	17.0
55000.0	99.4	-69.4	170.0	556.1	67.2	18.0
55500.0	96.9	-70.4	166.5	554.7	74.5	17.6
56000.0	94.5	-71.4	163.1	553.4	82.1	17.4
56500.0	92.1	-71.0	158.7	553.9	92.5	16.9
57000.0	89.8	-70.5	154.4	554.5	105.2	16.9
57500.0	87.5	-70.1	150.2	555.1	107.0	17.0
58000.0	85.3	-69.7	146.1	555.7	104.5	16.6
58500.0	83.2	-69.3	142.1	556.3	102.0	16.3
59000.0	81.1	-68.8	138.2	556.9	99.0	16.2
59500.0	79.1	-66.7	133.4	559.8	97.3	16.1
60000.0	77.1	-63.2	127.9	564.5	94.9	15.1
60500.0	75.3	-62.3	124.3	565.7	92.1	13.9
61000.0	73.4	-61.4	120.8	566.9	88.8	12.6
61500.0	71.7	-60.5	117.4	566.1	84.7	11.1
62000.0	69.9	-59.6	114.1	569.3	79.5	9.8
62500.0	68.3	-59.6	111.4	569.5	70.9	10.5
63000.0	66.6	-59.6	108.7	569.3	74.7	11.2
63500.0	65.0	-59.6	106.1	569.3	77.9	13.1

STATION ALTITUDE 4010.40 FEET N.SL
 2nd JUNE 81 0630 HRS MDT
 ASCENSION NO. 59

UPPER AIR DATA

1750220059

NW 30

0630 HRS MDT

TABLE 7 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN) KNOTS	INDEX OF REFRACTION
64000.0	63.5	-59.6	103.6	569.3	81.5	15.6	1.000023
64500.0	62.0	-59.6	101.1	569.3	85.4	17.8	1.000023
65000.0	60.5	-59.6	98.7	569.3	89.7	19.8	1.000022
65500.0	59.0	-59.6	96.3	569.3	92.3	21.8	1.000021
66000.0	57.6	-59.6	94.0	569.3	91.3	23.6	1.000021
66500.0	56.3	-59.1	91.6	569.9	90.4	25.5	1.000020
67000.0	54.9	-58.6	89.2	570.6	89.7	26.4	1.000020
67500.0	53.6	-58.1	86.8	571.3	88.9	26.8	1.000019
68000.0	52.3	-57.5	84.6	572.1	88.1	27.2	1.000019
68500.0	51.1	-57.0	82.4	572.8	85.8	27.0	1.000018
69000.0	49.9	-56.5	80.2	573.4	82.9	26.7	1.000018
69500.0	48.7	-56.4	78.3	573.5	80.0	26.4	1.000017
70000.0	47.6	-56.4	76.5	573.6	79.3	26.2	1.000017
70500.0	46.4	-56.3	74.6	573.6	78.7	25.9	1.000017
71000.0	45.4	-56.3	72.9	573.7	78.3	25.7	1.000016
71500.0	44.3	-56.1	71.1	574.0	80.7	25.3	1.000016
72000.0	43.5	-55.9	69.4	574.2	83.2	25.0	1.000015
72500.0	42.2	-55.7	67.7	574.5	85.4	24.8	1.000015
73000.0	41.3	-55.5	66.0	574.7	87.0	24.8	1.000015
73500.0	40.3	-55.3	64.4	575.0	88.5	24.9	1.000014
74000.0	39.5	-55.1	62.9	575.2	89.6	24.6	1.000014
74500.0	38.4	-54.9	61.3	575.5	90.2	24.5	1.000014
75000.0	37.5	-54.8	59.9	575.7	90.9	24.1	1.000013
75500.0	36.6	-54.6	58.4	576.0	91.2	24.8	1.000013
76000.0	35.8	-54.4	57.0	576.2	91.3	25.8	1.000013
76500.0	35.0	-54.2	55.6	576.5	91.5	26.9	1.000012
77000.0	34.1	-54.0	54.3	576.8	90.9	29.8	1.000012
77500.0	33.3	-53.5	52.9	577.3	90.4	32.8	1.000012
78000.0	32.6	-53.1	51.6	577.9	90.8	35.3	1.000012
78500.0	31.8	-52.7	50.3	578.5	89.8	35.6	1.000011
79000.0	31.1	-52.2	49.0	579.0	89.6	35.9	1.000011
79500.0	30.4	-51.8	47.8	579.6	88.9	34.8	1.000011
80000.0	29.7	-51.3	46.6	580.3	87.5	32.3	1.000010
80500.0	29.0	-50.7	45.4	581.1	85.8	29.9	1.000010
81000.0	28.3	-50.2	44.2	581.9	85.3	29.8	1.000010
81500.0	27.7	-49.4	43.1	582.7	85.2	30.3	1.000010
82000.0	27.1	-48.8	42.0	583.6	85.1	30.9	1.000009
82500.0	26.5	-48.1	41.0	584.4	86.4	33.2	1.000009
83000.0	25.9	-47.5	39.9	585.2	87.5	35.6	1.000009
83500.0	25.3	-46.9	38.9	586.0	88.0	37.8	1.000009

STATION ALTITUDE 4010.40 FEET MSL
24 JUNE 01 0630 Hrs MDT

UPPER AIR DATA
175022059
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

ASCENSION NO.	59	TEMPERATURE AIR DEGREEES	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	SOUND METER KNOTS	WIND DATA DIR+CTN DEGREES (TN)	INDEX OF REFRACTION
GEOMETRIC ALTITUDE MSL FEET	MILLIBARS	DEGREEES	CENTIGRADE				
84000.0	24.7	-46.3			37.9	506.8	1.000008
84500.0	24.1	-45.6			37.0	587.6	1.000008
85000.0	23.6	-45.0			36.0	588.4	1.000008
85500.0	23.1	-44.4			35.1	589.3	1.000008
86000.0	22.5	-44.1			34.3	589.6	1.000008
86500.0	22.0	-43.9			33.5	589.8	1.000008
87000.0	21.6	-43.7			32.7	590.1	1.000007
87500.0	21.1	-43.5			32.0	590.4	1.000007
88000.0	20.6	-43.3			31.2	590.6	1.000007
88500.0	20.1	-42.4			30.4	591.8	1.000007
89000.0	19.7	-42.0			29.7	592.3	1.000007
89500.0	19.3	-41.8			29.0	592.6	1.000006
90000.0	18.8	-41.6			28.4	592.8	1.000006
90500.0	18.4	-41.4			27.7	593.0	1.000006
91000.0	18.0	-41.3			27.1	593.2	1.000006
91500.0	17.6	-41.1			26.5	593.5	1.000006
92000.0	17.2	-40.9			25.9	593.7	1.000006
92500.0	16.9	-40.7			25.3	593.9	1.000006
93000.0	16.5	-40.5			24.7	594.2	1.000005
93500.0	16.1	-40.4			24.1	594.4	1.000005
94000.0	15.8	-40.2			23.6	594.6	1.000005
94500.0	15.4	-40.2			23.1	594.7	1.000005
95000.0	15.1	-40.1			22.6	594.7	1.000005
95500.0	14.8	-40.1			22.1	594.8	1.000005
96000.0	14.4	-40.0			21.6	594.8	1.000005
96500.0	14.1	-40.0			21.1	594.9	1.000005
97000.0	13.8	-40.0			20.6	594.9	1.000005
97500.0	13.5	-39.9			20.2	595.0	1.000004
98000.0	13.2	-39.6			19.7	595.4	1.000004
98500.0	12.9	-39.0			19.3	596.1	1.000004
99000.0	12.7	-38.4			18.8	596.8	1.000004
99500.0	12.4	-37.9			18.3	597.5	1.000004
100000.0	12.1	-37.3			17.9	598.2	1.000004
100500.0	11.9	-36.8			17.5	599.0	1.000004
101000.0	11.6	-36.2			17.1	599.7	1.000004
101500.0	11.4	-35.7			16.7	600.4	1.000004
102000.0	11.1	-35.1			16.3	601.1	1.000004
102500.0	10.9	-34.5			15.9	601.8	1.000004
103000.0	10.6	-34.0			15.5	602.5	1.000003
103500.0	10.4	-33.4			15.1	603.2	1.000003

TABLE 7 (con't)

STATION ALTITUDE 4010.49 FEET MSL
24 JUNE '61 0630 HRS MDT
ASCENSION NO. 59

UPPER AIR DATA
1750220059
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND METER METER	DIR, CTN DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
104000.0	10.2	-32.9	-32.4	100	14.8	603.9	1.000003	
104500.0	10.0	-32.4	-32.1	100	14.4	604.5	1.000003	
105000.0	9.8	-32.1	-32.1	100	14.1	604.8	1.000003	

TABLE 7 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND METER METER	DIR, CTN DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
104000.0	10.2	-32.9	-32.4	100	14.8	603.9	1.000003	
104500.0	10.0	-32.4	-32.1	100	14.4	604.5	1.000003	
105000.0	9.8	-32.1	-32.1	100	14.1	604.8	1.000003	

STATION ALTITUDE 4010.40 FEET SL
 24 JUNE 81 0630 HRS MDT
 ASCENSION NO. 59

MANDATORY LEVELS

1750220059
 NW 30

GEODETIC COORDINATES
 32° 88' 49" LAT DEG
 106° 49' 71" LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
					DEGREES	DIRECTION DEGREES (TN) KNOTS
850.0	4989.	24.6	12.2	46.	293.4	2.7
800.0	6723.	20.8	9.2	47.	222.2	7.7
750.0	8544.	18.1	6.2	46.	259.6	13.8
700.0	10474.	14.3	2.9	46.	255.2	10.6
650.0	12512.	9.7	-1.	50.	333.4	11.0
600.0	14673.	4.0	-2.8	61.	1.0	11.1
550.0	16972.	-2.1	-4.5	84.	41.5	15.4
500.0	19435.	-6.8	-11.3	70.	62.0	24.5
450.0	22109.	-12.6	-16.5	72.	48.8	17.7
400.0	25029.	-16.8	-26.4	45.	48.2	10.9
350.0	28278.	-23.5	-34.6	35.	76.6	8.5
300.0	31904.	-33.3	-40.9	46.	337.3	7.2
250.0	36024.	-43.3			320.6	16.7
200.0	40835.	-54.0			335.2	21.4
175.0	43606.	-60.4			12.7	17.8
150.0	46723.	-64.7			55.1	25.1
125.0	50344.	-68.6			109.8	19.6
100.0	54713.	-69.2			65.8	16.1
80.0	59060.	-68.6			98.5	16.2
70.0	61770.	-59.6			79.9	9.9
60.0	64934.	-59.6			90.7	20.3
50.0	68696.	-56.5			83.4	26.7
40.0	73351.	-55.3			88.0	25.0
30.0	79416.	-51.6			88.3	33.0
25.0	83341.	-46.6			87.8	36.4
20.0	88249.	-42.1			92.6	32.9
15.0	94668.	-40.1			91.0	44.3
10.0	103861.	-32.4				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4050 FEET MDT
24 JUNE 81
ASCENSION NO. 57

SIGNIFICANT LEVEL DATA

175003005/
JALLEN

DEFINITIC COORDINATES
33°16'12" LAT DEG
106°49'51" LONG DEG

TABLE 9

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE MSL FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT PERCENT	REL. HUM. PERCENT
877.2	4051.0	22.5	10.6	47.0
859.6	4631.5	23.6	9.6	41.0
850.0	4953.7	23.4	9.0	40.0
814.6	6172.5	23.1	7.2	36.0
766.4	7906.1	18.9	3.9	37.0
747.2	8622.1	19.2	2.6	33.0
700.0	10450.4	14.8	-0.1	36.0
593.6	14942.0	3.2	-4.3	58.0
533.2	17767.0	-4.2	-6.6	62.0
500.0	19424.9	-7.8	-11.1	77.0
465.8	21226.1	-11.6	-15.1	75.0
452.6	21950.1	-12.6	-17.6	65.0
404.9	24716.2	-18.7	-23.8	64.0
400.0	25015.0	-18.7	-25.9	53.0
377.8	26413.0	-19.8	-31.9	33.0
354.7	27942.1	-23.8	-41.3	18.0
321.0	30312.1	-30.1	-41.7	31.0
300.0	31884.4	-34.3	-38.6	65.0
278.6	33579.2	-37.2	-43.6	51.0
250.0	36009.8	-43.9	-49.7	52.0
200.0	40030.0	-54.7		
167.6	44498.2	-61.6		
150.0	46749.0	-64.5		
142.2	47823.8	-65.0		
130.4	49553.3	-67.9		
112.2	52516.1	-70.4		
107.6	53339.9	-68.6		
100.0	54782.2	-70.2		

STATION ALTITUDE 4051.00 FEET ASL
24 JUNE 61 0745 HRS MDT
ASCENSION NO. 57

UPPER AIR DATA
175003005/
JALLEN

GEODETIC COORDINATES
33°16'71.2 LAT DEG
106°49'51.1 LONG DEG

TABLE 10

GEOMETRIC PRESSURE	TEMPERATURE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (IN)	"IN" DATA SPEED KNOTS	INDEX OF REFRACTION	
4051.0	877.2	10.6	47.0	1027.9	671.7	0.0	1.000285	
4500.0	863.6	23.4	9.8	1009.2	672.6	.8	1.000277	
5000.0	840.6	23.4	9.0	991.8	672.6	1.6	1.000271	
5500.0	833.9	23.5	8.2	975.3	672.4	2.7	1.000264	
6000.0	819.5	23.1	7.5	950.9	672.4	3.7	1.000258	
6500.0	805.3	22.3	6.6	945.1	671.2	4.7	1.000253	
7000.0	791.2	21.1	5.6	932.7	669.7	5.7	1.000248	
7500.0	777.4	19.9	4.7	920.4	668.5	6.9	1.000243	
8000.0	763.9	18.9	3.7	907.4	667.1	8.0	1.000238	
8500.0	750.4	19.1	2.8	891.0	667.3	9.1	1.000232	
9000.0	737.2	18.3	2.0	878.0	666.5	9.2	1.000227	
9500.0	724.2	17.1	1.3	866.1	664.9	9.0	1.000223	
10000.0	711.3	15.9	.6	854.5	663.4	8.3	1.000219	
10500.0	698.7	14.7	-1.1	842.9	662.0	7.6	1.000216	
11000.0	685.0	13.4	-4	831.3	660.5	7.1	1.000213	
11500.0	673.5	12.1	-7	819.9	659.0	7.4	1.000210	
12000.0	661.3	10.8	-1.1	808.7	657.5	7.5	1.000207	
12500.0	649.3	9.5	-1.5	797.7	656.0	8.7	1.000204	
13000.0	637.5	8.2	-2.0	786.8	654.5	9.7	1.000201	
13500.0	625.9	6.9	-2.5	776.0	653.0	11.4	1.000197	
14000.0	614.5	5.6	-3.1	765.0	651.4	13.1	1.000194	
14500.0	603.3	4.3	-3.7	755.2	649.9	1.1	1.000191	
15000.0	592.3	3.0	-4.3	58.5	744.9	648.4	8.8	1.000188
15500.0	581.2	1.7	-4.6	62.7	734.4	646.8	19.2	1.000185
16000.0	570.2	4	-5.0	67.0	724.1	645.3	30.2	1.000183
16500.0	559.5	-1.9	-5.4	71.2	713.9	643.7	41.5	1.000180
17000.0	549.0	-2.2	-5.9	75.5	703.9	642.1	51.0	1.000177
17500.0	538.6	-3.5	-6.5	79.7	694.0	640.6	56.5	1.000174
18000.0	528.4	-4.7	-7.4	81.3	684.1	639.1	64.0	1.000171
18500.0	518.3	-5.8	-8.7	79.8	673.7	637.7	64.3	1.000167
19000.0	506.3	-6.9	-10.0	78.3	663.6	636.4	65.3	1.000163
19500.0	495.0	-8.0	-11.3	76.9	653.6	635.0	61.5	1.000160
20000.0	485.8	-9.0	-12.4	76.4	645.5	633.7	59.0	1.000156
20500.0	479.5	-10.1	-13.5	75.8	635.6	632.4	57.8	1.000153
21000.0	473.0	-11.1	-14.6	75.3	625.8	631.1	56.1	1.000150
21500.0	460.8	-12.0	-16.1	71.2	613.7	630.0	55.2	1.000146
22000.0	451.7	-12.7	-17.9	65.0	603.4	624.1	54.2	1.000143
22500.0	442.7	-13.8	-19.0	64.8	594.0	627.7	52.4	1.000140
23000.0	433.9	-14.9	-20.1	64.6	584.7	626.4	50.0	1.000137
23500.0	425.2	-16.0	-21.1	64.4	575.5	625.0	48.0	1.000135

STATION ALTITUDE 451.00 FFEI MSL
24 JUNE 81 0745 HRS MDT
ASCENSION NO. 57

UPPER AIR DATA
1750030057
JALLEN

TABLE 10 (Cont'd)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	INDEX OF REFRACTION
24000.0	410.7	-17.1	-22.2	64.3	566.5	623.7	47.5
24500.0	404.4	-18.2	-23.3	64.1	557.7	622.3	50.3
25000.0	400.2	-18.7	-25.7	53.6	547.6	621.7	59.4
25500.0	392.2	-19.1	-27.7	46.1	537.4	621.2	68.4
26000.0	384.2	-19.5	-29.9	38.9	527.4	620.6	74.2
26500.0	376.4	-20.0	-32.4	32.1	517.9	619.9	69.9
27000.0	368.8	-21.3	-35.2	27.2	510.0	618.3	60.2
27500.0	361.2	-22.6	-38.3	22.3	502.2	616.7	53.2
28000.0	353.6	-24.0	-41.3	18.3	494.6	615.0	47.6
28500.0	346.5	-25.3	-41.1	21.1	486.6	613.4	42.3
29000.0	339.2	-26.6	-41.1	23.8	479.3	611.8	37.2
29500.0	332.2	-27.9	-41.2	26.5	471.8	610.1	33.5
30000.0	325.2	-29.3	-41.5	29.3	464.5	608.4	29.7
30500.0	318.4	-30.6	-41.0	34.8	457.2	606.8	20.7
31000.0	311.6	-31.9	-39.8	45.0	450.0	605.1	10.0
31500.0	305.0	-33.3	-39.1	55.2	442.8	603.5	1.3
32000.0	298.5	-34.5	-39.2	62.2	435.6	601.9	354.2
32500.0	292.0	-35.4	-40.5	58.6	427.7	600.8	351.6
33000.0	285.7	-36.2	-41.9	55.1	420.0	599.7	351.0
33500.0	279.6	-37.1	-43.3	51.6	412.6	598.6	346.5
34000.0	273.4	-38.4	-44.6	51.2	405.6	597.0	340.8
34500.0	267.4	-39.7	-45.9	51.4	399.0	595.2	334.9
35000.0	261.5	-41.1	-47.1	51.6	392.6	593.5	329.3
35500.0	255.7	-42.5	-48.4	51.8	386.2	591.7	323.7
36000.0	250.1	-43.9	-49.7	52.0	380.0	589.9	315.8
36500.0	244.4	-45.0	-51.6	46.7**	373.1	588.5	308.9
37000.0	238.8	-46.1	-53.7	41.3**	366.4	587.0	302.6
37500.0	233.5	-47.2	-55.9	35.9**	359.8	585.6	296.8
38000.0	228.0	-48.4	-58.2	30.5**	353.3	584.1	297.8
38500.0	222.8	-49.5	-60.7	25.1**	347.0	582.6	298.9
39000.0	217.7	-50.6	-61.5	19.7**	340.7	581.2	304.3
39500.0	212.7	-51.7	-66.7	14.3**	334.6	579.7	310.6
40000.0	207.8	-52.8	-70.9	9.0**	320.6	578.2	316.2
40500.0	202.1	-54.0	-77.8	3.6**	322.8	576.8	321.1
41000.0	196.4	-55.0			316.8	575.4	326.4
41500.0	190.6	-56.0			310.6	574.1	335.9
42000.0	185.0	-56.9			304.5	572.9	342.6
42500.0	184.5	-57.8			298.6	571.6	351.7
43000.0	180.1	-58.8			292.7	570.4	37.6
43500.0	175.9	-59.7			287.0	569.1	1.0

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN INTERPOLATION.

STATION ALTITUDE 4051.00 FEET MSL
 24 JUNE 11 0745 HRS MDT
 ASCENSION NO. 57

UPPER AIR DATA

17500.005/
 JALLEN

GEODETIC COORDINATES
 33°16'12" LAT DEG
 106°49'51" LON DEG

TABLE 10 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOBS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
44000.0	171.7	-60.7			281.4	567.9	*4	1.000063
44500.0	167.6	-61.6			276.0	566.6	6.0	1.000061
45000.0	165.5	-62.2			270.1	565.8	16.9	1.000060
45500.0	159.5	-62.9			264.3	564.9	30.4	1.000059
46000.0	155.6	-63.5			258.7	564.0	47.5	1.000058
46500.0	151.9	-64.2			250.1	563.2	62.4	1.000056
47000.0	146.1	-64.6			247.5	562.6	73.9	1.000055
47500.0	144.5	-64.8			241.7	562.3	84.6	1.000054
48000.0	141.0	-65.3			236.2	561.7	95.4	1.000053
48500.0	137.5	-66.1			231.3	560.5	107.2	1.000052
49000.0	134.1	-67.0			226.5	559.4	114.1	1.000050
49500.0	130.7	-67.8			221.8	558.3	117.9	1.000049
50000.0	127.5	-68.3			216.8	557.6	121.6	1.000048
50500.0	124.3	-68.7			211.8	557.0	117.7	1.000047
51000.0	121.2	-69.1			206.9	556.5	111.5	1.000046
51500.0	118.1	-69.5			202.1	555.9	102.0	1.000045
52000.0	115.2	-70.0			197.5	555.3	90.2	1.000044
52500.0	112.3	-70.4			192.9	554.7		1.000043
53000.0	109.5	-69.3			187.1	556.2		1.000042
53500.0	106.7	-68.8			181.9	556.9		1.000041
54000.0	104.1	-69.3			177.6	556.2		1.000040
54500.0	101.4	-69.9			173.9	555.4		1.000039

STATION ALTITUDE 4051.00 FEET MSL
 24 JUNE 81 C745 HRS MDT
 ASCENSION NO. 57

MAINTAINING LEVELS
 1750030057
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LONG DEG

TABLE II

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				AIR DEWPNT	DIRECTION DEGREES (TN)
850.0	4950.	23.4	40.	215.1	1.7
800.0	6684.	21.9	62.	223.9	5.1
750.0	8509.	19.2	28.	248.0	9.1
700.0	10441.	14.8	-1.	36.	300.3
650.0	12479.	9.6	-1.5	46.	341.2
600.0	14639.	4.0	-3.9	57.	2.5
550.0	16937.	-2.1	-5.9	75.	50.1
500.0	19398.	-7.8	-11.1	77.	61.8
450.0	22062.	-12.9	-18.1	65.	54.1
400.0	24974.	-18.7	-25.9	53.	59.5
350.0	28212.	-24.6	-41.2	20.	45.0
300.0	31822.	-34.3	-38.6	63.	355.9
250.0	35932.	-43.9	-49.7	52.	315.9
200.0	40733.	-54.7			13.3
175.0	43502.	-59.9			324.1
150.0	46624.	-64.5			20.6
125.0	50247.	-68.6			19.3
100.0	54615.	-70.2			19.3

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
 24 JUNE 81 0915 HRS MDT
 ASCENSION NO. 413

SIGNIFICANT LEVEL DATA

17500±0413
 WHITE SANDS

GEODETIC COORDINATES
 32°40'04.3 LAT DEG
 106°37'03.3 LON UEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
880.1	3989.0	26.0	43.0
859.4	4675.8	24.0	47.0
850.4	4979.4	25.5	44.0
783.2	7343.4	21.7	43.0
700.0	10508.1	14.9	44.0
683.2	11182.7	13.6	45.0
587.0	15309.1	3.0	63.0
500.0	19502.9	-7.8	82.0
489.6	20040.4	-8.7	85.0
474.2	20853.8	-10.2	75.0
451.0	22119.1	-13.3	77.0
428.6	23394.9	-13.8	50.0
400.0	25110.9	-17.2	40.0
343.6	28798.6	-25.9	29.0
335.6	29716.2	-27.0	36.0
300.0	31992.7	-33.3	43.0
263.6	34940.1	-40.6	39.0
250.0	36119.9	-44.0	
200.0	40939.2	-54.7	
172.0	44071.1	-61.4	
150.0	46847.8	-64.7	
135.0	48950.3	-68.4	
124.0	50630.7	-68.6	
120.0	51280.8	-67.3	
103.4	54242.5	-67.3	
100.0	54905.4	-68.7	
88.0	57417.6	-71.0	
79.4	59475.3	-61.4	
74.2	60868.6	-59.5	
70.0	62064.4	-62.4	
66.2	63196.5	-64.5	
50.0	68976.6	-56.1	
39.8	73779.5	-55.3	
30.0	79849.3	-47.6	
20.0	88825.5	-41.9	
14.6	95976.5	-35.9	
13.0	98631.5	-39.0	
10.4	103718.1	-37.7	

STATION ALTITUDE 3989.00 FEET MSL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANDS

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	REL. HUM. PERCENT	SPEED OF SOUND/CUBIC METER	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	880.1	26.0	12.5	43.0	1018.5	675.9	125.0	5.1
4000.0	879.8	26.0	12.5	43.1	1018.2	675.9		1.000268
4500.0	864.7	24.5	12.1	46.0	1005.7	674.2		1.000285
5000.0	849.8	25.5	12.3	44.0	985.0	675.4		1.000281
5500.0	835.1	24.7	11.5	43.8	970.9	674.4		1.000275
6000.0	820.7	23.9	10.7	43.6	956.9	673.4		1.000269
6500.0	806.5	23.1	9.9	43.4	943.1	672.4		1.000263
7000.0	792.6	22.3	9.1	43.1	929.6	671.4		1.000258
7500.0	778.9	21.4	8.3	43.0	916.4	670.4		1.000252
8000.0	765.2	20.3	7.4	43.2	903.8	669.1		1.000247
8500.0	751.7	19.2	6.5	43.4	891.3	667.8		1.000242
9000.0	738.5	18.1	5.5	43.5	879.1	666.5		1.000236
9500.0	725.5	17.1	4.6	43.7	867.0	665.2		1.000231
10000.0	712.7	16.0	3.7	43.8	855.1	663.9		1.000227
10500.0	700.2	14.9	2.8	44.0	843.4	662.6		1.000222
11000.0	687.7	14.0	2.1	44.7	831.2	661.4		1.000218
11500.0	675.3	12.9	1.6	46.4	819.6	660.0		1.000214
12000.0	663.0	11.5	1.0	48.6	808.3	658.5		1.000211
12500.0	650.9	10.2	.5	50.7	797.3	657.0		1.000207
13000.0	639.0	8.9	-1	52.9	786.4	655.5		1.000204
13500.0	627.4	7.6	-8	55.1	775.6	654.0		1.000201
14000.0	616.0	6.4	-1.4	57.3	765.1	652.4		1.000197
14500.0	604.7	5.1	-2.1	59.5	754.7	650.9		1.000194
15000.0	593.7	3.8	-2.9	61.7	744.5	649.3		1.000190
15500.0	582.7	2.5	-3.6	63.9	734.2	647.8		1.000187
16000.0	571.7	1.2	-4.4	66.1	723.7	646.2		1.000183
16500.0	560.9	-1	-5.2	68.4	713.5	644.7		1.000180
17000.0	550.2	-1.4	-6.0	70.7	703.4	643.1		1.000177
17500.0	539.8	-2.6	-6.8	72.9	693.4	641.6		1.000173
18000.0	529.6	-3.9	-7.7	75.5	683.6	640.0		1.000170
18500.0	519.6	-5.2	-8.5	77.5	673.9	638.4		1.000167
19000.0	509.7	-6.5	-9.4	79.7	664.4	636.9		1.000164
19500.0	500.1	-7.8	-10.3	82.0	655.1	635.3		1.000161
20000.0	490.4	-8.6	-10.7	84.8	644.5	634.3		1.000158
20500.0	480.8	-9.5	-12.4	79.3	634.3	633.1		1.000154
21000.0	471.5	-10.6	-14.1	75.2	624.4	631.8		1.000150
21500.0	462.2	-11.8	-15.1	76.0	615.1	630.3		1.000147
22000.0	453.1	-13.0	-16.2	76.8	605.9	628.8		1.000145
22500.0	444.2	-13.4	-17.9	68.9	595.1	628.2		1.000141
23000.0	435.4	-13.6	-20.0	58.4	583.9	627.9		1.000137

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH, AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANDS

GEODETIC COORDINATES
32°40.043 LAT DEG
106°37.033 LON DEG

TABLE 13 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION		
	METER	CENTIGRADE		GM/CUBIC METER	(FTN)				
23500.0	420.8	-14.0	-22.3	49.4	573.2	627.4	72.9	9.9	1.000133
24000.0	418.3	-15.0	-23.9	46.5	564.0	626.2	74.1	10.6	1.000131
24500.0	410.0	-16.0	-25.5	43.6	555.0	625.0	75.1	11.3	1.000128
25000.0	401.8	-17.0	-27.2	40.6	546.1	623.7	76.2	12.0	1.000125
25500.0	393.6	-18.1	-28.7	38.8	537.4	622.3	77.1	12.7	1.000123
26000.0	385.6	-19.3	-30.2	37.3	528.9	620.9	78.9	12.4	1.000121
26500.0	377.7	-20.5	-31.6	35.9	520.6	619.4	80.9	12.0	1.000118
27000.0	370.0	-21.7	-33.1	34.4	512.4	617.9	81.2	11.8	1.000116
27500.0	362.5	-22.8	-34.6	32.9	504.3	616.5	81.0	11.7	1.000114
28000.0	355.1	-24.0	-36.1	31.4	496.4	615.0	74.4	11.4	1.000112
28500.0	347.9	-25.2	-37.7	29.9	488.6	613.5	63.9	11.3	1.000110
29000.0	340.7	-26.1	-38.3	30.5	480.4	612.4	54.2	11.0	1.000108
29500.0	333.6	-26.7	-37.7	34.4	471.5	611.6	44.5	10.4	1.000106
30000.0	326.6	-27.8	-38.0	36.9	463.6	610.3	37.0	10.1	1.000105
30500.0	319.7	-29.2	-38.8	38.4	456.4	608.6	32.4	9.9	1.000103
31000.0	313.0	-30.6	-39.7	39.9	449.3	606.9	29.3	9.9	1.000101
31500.0	306.4	-31.9	-40.6	41.5	442.4	605.1	28.5	10.3	1.000100
32000.0	299.9	-33.3	-41.5	43.0	435.5	603.4	28.9	10.8	1.000098
32500.0	293.4	-34.6	-42.8	42.3	428.3	601.8	31.1	11.6	1.000096
33000.0	287.0	-35.8	-44.1	41.6	421.2	600.2	33.1	12.5	1.000095
33500.0	280.8	-37.0	-45.4	41.0	414.2	598.7	34.6	14.1	1.000093
34000.0	274.7	-38.3	-46.7	40.3	407.4	597.1	35.5	15.6	1.000091
34500.0	268.7	-39.5	-48.0	39.6	400.7	595.5	33.4	15.8	1.000090
35000.0	262.9	-40.8	-49.7	37.0*	394.1	593.9	31.4	16.0	1.000088
35500.0	257.1	-42.2	-55.9	20.5*	387.7	592.0	22.7	15.6	1.000087
36000.0	251.3	-43.7	-69.3	4.0*	381.5	590.2	11.2	15.4	1.000085
36500.0	245.6	-44.8			374.8	588.6	.2	15.7	1.000083
37000.0	240.0	-46.0			368.0	587.2	349.9	16.1	1.000082
37500.0	234.5	-47.1			361.4	585.8	341.1	17.0	1.000080
38000.0	229.2	-48.2			354.8	584.3	339.6	17.2	1.000079
38500.0	223.9	-49.3			348.4	582.9	338.1	17.5	1.000078
39000.0	218.8	-50.4			342.2	581.4	340.4	18.2	1.000076
39500.0	213.8	-51.5			336.0	580.0	343.1	19.0	1.000075
40000.0	208.9	-52.6			330.0	578.5	346.4	19.6	1.000073
40500.0	204.1	-53.7			324.0	577.1	350.8	19.3	1.000072
41000.0	199.4	-54.8			318.2	575.6	355.3	19.2	1.000071
41500.0	194.7	-55.9			312.2	574.2	.7	18.6	1.000070
42000.0	190.0	-57.0			306.2	572.8	6.6	18.1	1.000068
42500.0	185.5	-58.0			300.4	571.4	11.0	18.0	1.000067
43000.0	181.1	-59.1			294.8	570.0	12.5	18.4	1.000066

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANUS

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LON DEG

TABLE 13 (Con't)

GEOMETRIC ALTITUDE MSL MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	176.8	-60.2		289.2	568.5	13.9	18.8	
44000.0	172.6	-61.2		283.7	567.1	20.5	18.9	1.000063
44500.0	168.4	-61.9		277.7	566.2	27.8	19.3	1.000062
45000.0	164.3	-62.5		271.7	565.4	37.4	19.8	1.000061
45500.0	160.3	-63.1		265.9	564.6	54.2	20.7	1.000059
46000.0	156.4	-63.7		260.1	563.8	68.5	23.1	1.000058
46500.0	152.6	-64.3		254.5	563.0	79.4	25.1	1.000057
47000.0	148.9	-65.0		249.1	562.1	88.8	26.6	1.000055
47500.0	145.2	-65.8		244.0	560.9	96.9	28.8	1.000054
48000.0	141.6	-66.7		238.9	559.7	102.3	27.4	1.000053
48500.0	138.1	-67.6		234.0	558.5	108.0	25.1	1.000052
49000.0	134.7	-68.4		229.1	557.4	114.8	23.0	1.000051
49500.0	131.3	-68.5		223.5	557.4	113.0	19.7	1.000050
50000.0	128.0	-68.5		217.9	557.3	108.1	16.3	1.000049
50500.0	124.8	-68.6		212.6	557.2	100.6	13.1	1.000047
51000.0	121.7	-67.9		206.5	556.2	90.9	12.8	1.000046
51500.0	118.7	-67.3		200.9	558.9	81.5	13.2	1.000045
52000.0	115.7	-67.3		195.9	558.9	72.9	13.9	1.000044
52500.0	112.9	-67.3		191.0	558.9	74.3	13.6	1.000043
53000.0	110.1	-67.3		185.3	558.9	77.4	13.1	1.000041
53500.0	107.3	-67.3		181.6	558.9	80.4	12.6	1.000040
54000.0	104.7	-67.3		177.1	558.9	81.5	11.9	1.000039
54500.0	102.1	-67.8		173.2	558.2	82.6	11.3	1.000039
55000.0	99.5	-68.8		169.6	556.9	86.8	11.3	1.000038
55500.0	97.0	-69.2		165.8	556.3	93.6	12.5	1.000037
56000.0	94.6	-69.7		162.0	555.7	99.2	13.8	1.000036
56500.0	92.2	-70.2		158.2	555.1	100.7	14.7	1.000035
57000.0	89.9	-70.6		154.6	554.4	100.5	15.2	1.000034
57500.0	87.6	-70.6		150.7	554.4	100.2	15.8	1.000034
58000.0	85.5	-68.3		145.3	557.6	98.5	15.2	1.000032
58500.0	83.4	-66.0		140.2	560.8	96.2	14.5	1.000031
59000.0	81.3	-63.6		135.2	563.9	93.6	13.7	1.000030
59500.0	79.3	-61.4		130.4	566.9	93.1	13.7	1.000029
60000.0	77.4	-60.7		126.9	567.9	92.6	13.7	1.000028
60500.0	75.5	-60.0		123.5	568.8	92.4	13.8	1.000027
61000.0	73.7	-59.8		120.4	569.0	93.7	13.6	1.000027
61500.0	72.0	-61.0		118.2	567.4	95.1	13.4	1.000026
62000.0	70.2	-62.2		116.0	565.8	96.5	13.2	1.000026
62500.0	68.5	-63.2		113.7	564.5	93.9	12.6	1.000025
63000.0	66.8	-64.1		111.4	563.2	90.5	11.9	1.000025

STATION ALTITUDE 3989.00 FEET SL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANDS

TABLE 13 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
63500.0	65.2	-64.1	108.7	563.3	87.8	12.3
64000.0	65.7	-63.3	105.7	564.3	88.1	15.9
64500.0	62.1	-62.6	102.8	565.3	88.4	19.4
65000.0	60.6	-61.9	100.0	566.3	92.2	22.6
65500.0	59.2	-61.2	97.3	567.2	97.1	25.7
66000.0	57.8	-60.4	94.6	568.2	100.9	28.9
66500.0	56.4	-59.7	92.0	569.2	102.7	27.6
67000.0	55.0	-59.0	89.5	570.1	104.6	26.4
67500.0	53.7	-58.2	87.1	571.1	105.5	25.3
68000.0	52.4	-57.5	84.7	572.1	104.6	24.1
68500.0	51.2	-56.8	82.4	573.0	103.5	22.9
69000.0	49.9	-56.1	80.2	574.0	101.1	22.2
69500.0	48.8	-56.0	78.2	574.1	98.0	21.8
70000.0	47.6	-55.9	76.4	574.2	94.9	21.4
70500.0	46.5	-55.8	74.6	574.3	93.7	22.8
71000.0	45.4	-55.8	72.8	574.4	92.6	24.2
71500.0	44.4	-55.7	71.0	574.5	92.3	25.3
72000.0	43.3	-55.6	69.4	574.6	93.2	26.0
72500.0	42.3	-55.5	67.7	574.7	94.2	26.7
73000.0	41.3	-55.4	66.1	574.8	94.7	27.4
73500.0	40.3	-55.3	64.5	574.9	94.1	28.1
74000.0	39.4	-55.0	62.9	575.4	93.5	28.8
74500.0	38.5	-54.4	61.3	576.2	93.2	29.5
75000.0	37.6	-53.8	59.7	577.0	94.5	29.6
75500.0	36.7	-53.1	58.2	577.9	95.8	29.8
76000.0	35.9	-52.5	56.7	578.7	97.0	30.0
76500.0	35.1	-51.8	55.2	579.5	97.1	29.9
77000.0	34.3	-51.2	53.8	580.4	97.3	29.8
77500.0	33.5	-50.6	52.4	581.2	97.4	29.7
78000.0	32.7	-49.9	51.0	582.0	94.4	30.6
78500.0	31.9	-49.3	49.7	582.9	91.0	31.8
79000.0	31.2	-48.7	48.4	583.7	87.9	33.1
79500.0	30.5	-48.0	47.2	584.5	87.6	34.4
80000.0	29.8	-47.5	46.0	585.2	88.0	35.8
80500.0	29.1	-47.2	44.9	585.6	88.3	37.1
81000.0	28.5	-46.9	43.8	586.0	89.6	38.3
81500.0	27.8	-46.6	42.8	586.4	91.0	39.4
82000.0	27.2	-46.2	41.8	586.9	92.4	40.6
82500.0	26.6	-45.9	40.8	587.3	92.5	41.0
83000.0	26.0	-45.6	39.8	587.7	92.3	41.3

STATION ALTITUDE 3489.00 FEET ASL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANDS
Table 13 (Con't)

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
83500.0	25.4	-45.3	38.9	588.1	92.1	1.000009
84000.0	24.9	-45.0	38.0	588.5	91.4	1.000008
84500.0	24.3	-44.6	37.1	588.9	90.4	1.000008
85000.0	23.8	-44.3	36.2	589.3	89.5	1.000008
85500.0	23.2	-44.0	35.3	589.7	89.3	1.000008
86000.0	22.7	-43.7	34.5	590.1	89.4	1.000008
86500.0	22.2	-43.4	33.7	590.5	89.5	1.000007
87000.0	21.7	-43.1	32.9	590.9	90.3	1.000007
87500.0	21.2	-42.7	32.1	591.3	91.5	1.000007
88000.0	20.8	-42.4	31.3	591.8	92.7	1.000007
88500.0	20.3	-42.1	30.6	592.2	93.1	1.000007
89000.0	19.8	-41.8	29.9	592.6	93.1	1.000007
89500.0	19.4	-41.5	29.2	593.2	93.1	1.000006
90000.0	19.0	-40.9	28.5	593.7	93.0	1.000006
90500.0	18.6	-40.5	27.8	594.2	92.6	1.000006
91000.0	18.2	-40.1	27.2	594.8	92.5	1.000006
91500.0	17.8	-39.7	26.5	595.3	92.0	1.000006
92000.0	17.4	-39.2	25.9	595.8	92.3	1.000006
92500.0	17.0	-38.8	25.3	596.4	92.6	1.000006
93000.0	16.6	-38.4	24.7	596.9	92.6	1.000006
93500.0	16.3	-38.0	24.1	597.4	95.8	1.000005
94000.0	15.9	-37.6	23.6	598.0	95.0	1.000005
94500.0	15.6	-37.1	23.0	598.5	96.5	1.000005
95000.0	15.2	-36.7	22.5	599.0	99.0	1.000005
95500.0	14.9	-36.3	21.9	599.6	103.0	1.000005
96000.0	14.6	-35.9	21.4	600.0	107.5	1.000005
96500.0	14.3	-36.5	21.0	599.3	112.0	1.000005
97000.0	14.0	-37.1	20.6	598.6	113.5	1.000005
97500.0	13.7	-37.7	20.2	597.8	114.5	1.000005
98000.0	13.4	-38.3	19.8	597.1	115.7	1.000004
98500.0	13.1	-38.8	19.4	596.3	117.0	1.000004
99000.0	12.8	-38.9	19.0	596.3	118.5	1.000004
99500.0	12.5	-38.6	18.6	596.4	119.5	1.000004
100000.0	12.2	-38.7	18.2	596.6	119.5	1.000004
100500.0	12.0	-38.5	17.8	596.7	117.7	1.000004
101000.0	11.7	-38.4	17.4	596.9	115.9	1.000004
101500.0	11.5	-38.3	17.0	597.1	117.0	1.000004
102000.0	11.2	-38.1	16.6	597.2	116.6	1.000004
102500.0	11.0	-38.0	16.3	597.4	116.3	1.000004
103000.0	10.7	-37.9	15.9	597.6	115.7	1.000004

STATION ALTITUDE 3989.00 FEET MSL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 413

UPPER AIR DATA
1750020413
WHITE SANDS

GEODETIC COORDINATES
32°40.043 LAT DEG
106.37033 LON DEG

TABLE 13 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	REL.HUM. PERCENT	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN) KNOTS	INDEX OF REFRACTION
10500.0	10.5	-37.8		15.5	597.7	1.000003

STATION ALTITUDE 3989.00 FEET MSL
 24 JUNE 81 0915 HRS MDT
 ASCENSION NO. 413

MANDATORY LEVELS
 17500/20413
 WHITE SANUS

TABLE 14

PRESSURE	GEOPOTENTIAL	TEMPERATURE	REL.HUM.	WIND DATA
MILLIBARS	FEET	AIR DEGREES	DEGREE/CENTIGRAVE	DIRECTION DEGREES(TN)
850.0	4989.	25.5	12.3	44. 9999.0 9999.0XX
800.0	6731.	22.7	9.6	45. 9999.0 9999.0XX
750.0	8565.	19.1	6.3	43. 9999.0 9999.0XX
700.0	10498.	14.9	2.8	44. 9999.0 9999.0XX
650.0	12541.	10.1	.4	51. 9999.0 9999.0XX
600.0	14706.	4.5	-2.5	60. 72.3 12.6
550.0	17009.	-1.4	-6.0	71. 74.5 16.0
500.0	19475.	-7.8	-10.3	82. 93.5 13.4
450.0	22140.	-13.3	-16.7	76. 84.5 8.9
400.0	25068.	-17.2	-27.5	40. 76.4 12.1
350.0	28305.	-24.8	-37.2	30. 67.2 11.3
300.0	31928.	-33.3	-41.5	43. 28.8 10.8
250.0	36040.	-44.0		8.9 15.5
200.0	40839.	-54.7		354.6 19.2
175.0	43604.	-60.6		16.0 18.8
150.0	46720.	-64.7		85.6 26.0
125.0	50325.	-68.6		101.6 13.4
100.0	54734.	-68.7		84.9 11.0
80.0	59124.	-62.1		93.3 13.7
70.0	61849.	-62.4		96.6 13.2
60.0	64960.	-61.6		94.0 23.6
50.0	68715.	-56.1		101.4 22.3
40.0	73378.	-55.3		93.9 28.3
30.0	79505.	-47.6		87.8 35.2
25.0	83479.	-45.0		91.7 41.6
20.0	88405.	-41.9		93.1 43.0
15.0	94873.	-36.4		101.4 31.9

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4051.00 FEET MSL
 24 JUNE 11
 0915 HRS MDT
 ASCENSION NO.

SIGNIFICANT LEVEL DATA
 17500.30000
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

PRESSURE GEOMETRIC
 MILLIBARS MSL FEET

TABLE 15
 ALTITUDE
 DEGREES CENTIGRADE

PRESSURE GEOMETRIC MILLIBARS MSL FEET	ALTITUDE DEGREES CENTIGRADE	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
877.3	4051.0	27.9	38.0
867.0	4394.6	27.5	31.0
850.0	4768.6	25.9	33.0
820.0	6003.7	24.0	31.0
753.2	8427.7	20.5	27.0
700.0	10485.0	15.1	33.0
618.4	13835.3	7.0	-12.2
558.2	16615.1	-4	-5.6
541.0	17435.8	-2.7	-6.5
500.0	19479.1	-6.4	-12.3
489.6	20019.2	-7.3	-15.4
453.0	21949.1	-12.0	-18.8
400.0	25089.8	-18.2	-25.4
386.4	25938.0	-19.6	-29.4
318.4	30573.6	-30.0	-45.6
300.0	31958.9	-33.7	-43.0
284.2	33202.3	-36.1	-42.9
262.0	34977.7	-40.0	-49.0
250.0	36094.8	-42.5	
213.2	39571.7	-51.2	
200.0	40930.3	-54.6	
169.0	44331.8	-61.2	
150.0	46053.7	-63.8	
127.4	50114.1	-69.1	
116.0	51968.9	-67.6	
107.0	53425.3	-67.5	
100.0	54911.2	-69.4	
83.0	58593.6	-68.0	
77.0	60107.4	-61.0	
70.0	62062.8	-61.0	
50.0	69007.9	-58.6	
35.2	76423.8	-51.2	
30.0	79073.5	-49.5	
20.0	83760.7	-44.5	
16.1	93637.1	-38.2	
14.0	96027.1	-37.6	

STATION ALTITUDE 4051.00 FEET SL
24 JUNE 01 0915 HRS MDT
ASCENSION NO. 58

UPPER AIR DATA
1750030055
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 16

GEOMETRIC PRESSURE ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.0	877.5	27.9	12.3	38.0	1000.9	678.0	0.0	1.000285
4500.0	865.9	27.2	8.8	31.4	997.0	676.9	219.3	1.000270
5000.0	849.1	25.8	8.3	32.9	984.4	675.3	219.3	1.000266
5500.0	834.5	24.9	7.1	32.0	970.8	674.1	219.3	1.000259
6000.0	820.1	24.0	5.9	31.0	957.3	673.0	236.9	1.000253
6500.0	805.9	23.3	4.8	30.2	943.8	672.1	256.3	1.000247
7000.0	791.9	22.6	3.8	29.4	929.3	671.2	279.7	1.000242
7500.0	776.1	21.8	2.8	28.5	915.6	670.3	291.4	1.000237
8000.0	764.6	21.1	1.8	27.7	902.0	669.4	291.3	7.8
8500.0	751.3	20.3	.8	27.2	886.9	668.5	287.5	1.000231
9000.0	736.0	19.0	.4	28.7	877.2	667.0	279.2	9.3
9500.0	725.0	17.7	-0.0	30.1	865.6	665.4	276.3	9.6
10000.0	712.2	16.4	-5	31.6	854.3	663.9	277.3	1.000220
10500.0	699.6	15.1	-1.1	33.0	843.1	662.4	291.2	5.6
11000.0	687.0	15.9	-2.7	31.6	831.5	660.9	313.7	1.000214
11500.0	674.6	12.7	-4.3	30.3	820.1	659.5	339.4	1.000208
12000.0	662.4	11.5	-5.9	29.0	808.8	658.0	358.6	6.4
12500.0	650.4	10.3	-7.5	27.7	797.8	656.6	360.6	1.000203
13000.0	638.6	9.1	-9.2	26.3	780.8	655.1	257.0	8.1
13500.0	627.1	7.9	-10.9	25.0	770.0	653.7	337.7	13.0
14000.0	615.7	6.7	-11.5	25.9	765.5	652.2	42.3	1.000199
14500.0	604.3	5.3	-9.3	33.9	754.5	650.7	50.6	1.000194
15000.0	592.9	4.0	-7.8	42.0	743.9	649.2	14.4	9.7
15500.0	582.0	2.6	-6.7	50.0	733.5	647.7	25.7	1.000190
16000.0	571.2	1.3	-6.0	58.1	723.5	646.2	64.4	1.000186
16500.0	560.6	-1	-5.6	66.1	713.3	644.6	64.4	17.1
17000.0	550.1	-1.5	-6.0	71.3	703.5	643.0	60.6	1.000183
17500.0	539.7	-2.8	-6.7	74.6	693.6	641.4	58.2	1.000179
18000.0	529.4	-3.7	-8.1	71.7	682.5	640.2	75.1	16.6
18500.0	519.2	-4.6	-9.5	68.8	672.2	639.1	78.8	13.9
19000.0	509.3	-5.5	-10.9	65.8	661.7	637.9	80.2	1.000175
19500.0	499.6	-6.4	-12.4	62.6	651.4	636.8	61.3	14.9
20000.0	489.0	-7.3	-15.3	52.4	641.0	635.7	62.2	1.000174
20500.0	480.4	-8.5	-16.3	53.2	631.5	634.2	81.6	15.1
21000.0	471.1	-9.7	-17.1	54.5	622.1	632.7	79.3	1.000170
21500.0	461.9	-10.9	-18.0	55.8	612.0	631.3	75.3	15.4
22000.0	452.9	-12.1	-18.9	56.9	602.0	631.3	68.9	1.000165
22500.0	443.9	-13.1	-19.9	56.3	593.4	628.6	62.2	1.000161
23000.0	435.6	-14.1	-21.0	55.7	584.4	627.4	54.7	17.7
23500.0	426.4	-15.1	-22.0	55.0	575.0	626.2	50.3	1.000154

STATION ALTITUDE 4510.00 FEET SL
24 JUNE 01 0915 HRS MDT
ASCENSION NO. 5A

UPPER AIR DATA
1750050050
JALLEN

GEOLITIC COORDINATES
33.10712 LAT LEG
106.43511 LON UEG

TABLE 16 (con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DFNSIT' GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION (DEGREES IN) SPEED KNOTS	INDEX OF REFRACTION	
24000.0	417.9	-10.0	-23.1	54.4	565.8	624.9	45.6	1.000131
24500.0	409.6	-17.0	-24.1	53.8	55.0	623.7	41.2	1.000129
25000.0	401.4	-18.0	-25.0	53.1	547.8	622.5	34.7	1.000127
25500.0	393.4	-18.9	-27.3	47.2	53.6	621.4	26.9	1.000124
26000.0	385.4	-19.7	-29.6	40.7	529.5	620.3	21.8	1.000121
26500.0	377.4	-20.9	-31.3	38.5	520.9	619.9	16.4	1.000119
27000.0	369.6	-22.0	-32.9	36.2	512.5	617.5	21.0	1.000116
27500.0	362.0	-23.1	-34.6	33.9	504.2	616.1	26.6	1.000114
28000.0	354.5	-24.2	-36.2	31.7	496.0	614.7	42.3	6.7
28500.0	347.2	-25.3	-38.0	29.4	486.0	613.3	50.2	6.4
29000.0	340.0	-26.5	-39.7	27.1	480.1	611.9	54.4	9.9
29500.0	333.0	-27.6	-41.5	24.9	472.3	610.5	56.6	11.1
30000.0	326.1	-28.7	-43.4	22.6	464.7	609.1	54.9	10.8
30500.0	319.4	-29.8	-45.3	20.3	457.2	607.7	51.0	10.4
31000.0	312.6	-31.1	-44.4	25.5	449.9	606.1	35.2	10.0
31500.0	306.0	-32.5	-43.5	32.0	442.8	604.4	19.6	10.4
32000.0	299.5	-33.8	-43.0	38.4	435.7	602.8	4.0	12.3
32500.0	293.0	-34.7	-42.9	42.8	428.1	601.6	353.1	14.9
33000.0	286.7	-35.7	-42.9	47.2	420.6	600.4	349.1	15.7
33500.0	280.5	-36.8	-43.9	47.0	413.3	599.0	346.4	16.0
34000.0	274.4	-37.9	-45.6	43.6	406.2	597.6	340.3	15.6
34500.0	268.4	-39.0	-47.3	40.2	399.2	596.2	331.9	15.0
35000.0	262.5	-40.0	-49.2	36.3**	392.3	594.8	322.0	15.1
35500.0	256.7	-41.2	-55.3	19.7**	385.5	593.4	312.0	16.1
36000.0	251.1	-42.3	-69.9	3.1**	378.8	591.9	306.2	16.9
36500.0	245.4	-43.5			372.3	590.4	305.2	17.2
37000.0	239.8	-44.9			365.9	588.7	306.0	17.4
37500.0	234.4	-46.0			359.3	587.1	309.5	17.4
38000.0	229.1	-47.3			353.3	585.5	311.5	17.6
38500.0	223.9	-48.5			347.3	583.9	311.6	17.6
39000.0	218.9	-49.8			341.3	582.3	311.4	17.6
39500.0	213.9	-51.0			335.5	580.6	310.6	17.0
40000.0	209.0	-52.3			329.5	579.0	314.1	15.6
40500.0	204.1	-53.5			323.7	577.5	321.8	13.8
41000.0	199.3	-54.7			317.9	575.8	333.1	11.6
41500.0	194.6	-55.9			311.8	574.5	350.4	9.6
42000.0	190.0	-56.7			305.7	573.2	360.0	8.6
42500.0	185.4	-57.6			299.8	571.9	26.9	8.3
43000.0	181.0	-58.6			294.0	570.6	28.4	8.6
43500.0	176.7	-59.6			288.3	569.3	28.2	8.8

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4651.00 FEET MSL
24 JUNE 01 0915 HRS MDT
ASCENSION, NO. 58

UPPER AIR DATA
1750030056
JALLEN

GEODETIC COORDINATES
33°16'12" LAT DEG
106°49'51" LONG DEG

TABLE 16 (Con't)

GEODETIC PRESSURE	TEMPERATURE	REL.HUM.	SPEED OF WIND DATA	
ALTITUDE AIR DEPOINT	DEGREES CENTIGRADE	PERCENT	DIRECTION SPEED INDEX	
MSL FEET MILLIBARS DEGREES	METER	GM/CURIC	KNOTS	OF
44000.0	172.5	-60.6	282.7	568.0
44500.0	168.4	-61.4	277.0	566.9
45000.0	164.3	-61.9	270.9	566.2
45500.0	160.3	-62.4	265.0	565.6
46000.0	156.1	-62.9	259.2	564.9
46500.0	152.6	-63.4	253.5	564.2
47000.0	148.9	-64.0	248.1	563.4
47500.0	145.2	-64.9	242.9	562.3
48000.0	141.6	-65.7	237.8	561.2
48500.0	138.1	-66.5	232.8	560.1
49000.0	134.7	-67.3	228.0	559.0
49500.0	131.4	-68.1	223.2	557.9
50000.0	128.1	-68.9	218.6	556.8
50500.0	124.9	-68.8	213.0	556.9
51000.0	121.8	-68.4	207.3	557.5
51500.0	118.8	-68.0	201.7	558.0
52000.0	115.8	-67.6	196.3	558.5
52500.0	112.9	-67.6	191.4	558.6
53000.0	110.1	-67.5	186.6	558.6
53500.0	107.4	-67.6	182.0	558.9
54000.0	104.7	-68.2	176.0	557.7
54500.0	102.1	-68.9	174.1	556.8
55000.0	99.6	-69.4	170.2	556.1
55500.0	97.1	-69.2	165.8	556.4
56000.0	94.6	-69.0	161.5	556.7
56500.0	92.3	-68.8	157.3	559.9
57000.0	90.0	-68.6	153.2	557.2
57500.0	87.7	-68.4	149.3	557.4
58000.0	85.5	-68.2	145.4	557.7
58500.0	83.4	-68.0	141.0	557.9
59000.0	81.3	-66.1	136.9	560.5
59500.0	79.4	-63.8	132.1	563.7
60000.0	77.4	-61.5	127.4	566.8
60500.0	75.5	-61.0	124.0	567.4
61000.0	73.7	-61.0	121.1	567.4
61500.0	71.9	-61.0	116.1	567.4
62000.0	70.2	-61.0	115.3	567.4
62500.0	68.5	-60.4	112.5	567.6
63000.0	66.9	-60.7	109.7	567.9
63500.0	65.3	-60.5	107.0	568.1

UPPER AIR DATA
17500 FEET MSL
JALLEN

STATION ALTITUDE 4151.00 FEET MSL
24 JUNE 1915 HRS MDT
ASCENSION NO. 58

TABLE 16 (Con't)

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES MILLIBARS	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN) SPF/EU KNOTS	INDEX OF REFRACTION
64000.0	63.7	-60.3	104.3	568.3	96.5	23.6	1.000023
64500.0	62.2	-60.2	101.7	568.6	100.4	25.3	1.000023
65000.0	60.7	-60.0	99.2	568.8	103.7	27.2	1.000022
65500.0	59.3	-59.8	96.8	569.0	106.0	27.4	1.000022
66000.0	57.8	-59.6	94.4	569.3	107.8	26.7	1.000021
66500.0	56.5	-59.5	92.0	569.5	109.7	26.1	1.000020
67000.0	55.1	-59.3	89.6	569.7	110.8	25.8	1.000020
67500.0	53.8	-59.1	87.6	569.9	111.8	25.4	1.000019
68000.0	52.5	-58.9	85.4	570.2	112.1	25.0	1.000019
68500.0	51.2	-58.8	83.3	570.4	107.9	24.1	1.000019
69000.0	50.0	-58.6	81.2	570.6	103.4	23.4	1.000018
69500.0	48.8	-58.1	79.1	571.3	98.6	22.5	1.000018
70000.0	47.7	-57.6	77.1	572.0	93.4	21.4	1.000017
70500.0	46.6	-57.1	75.1	572.6	87.6	20.4	1.000017
71000.0	45.5	-56.6	73.2	573.3	85.3	20.3	1.000016
71500.0	44.4	-56.1	71.3	573.9	85.3	20.5	1.000016
72000.0	43.4	-55.6	69.5	574.6	85.2	20.7	1.000015
72500.0	42.4	-55.1	67.7	575.3	86.5	21.9	1.000015
73000.0	41.4	-54.6	66.0	575.9	87.5	23.5	1.000015
73500.0	40.4	-54.1	64.3	576.6	86.6	25.0	1.000014
74000.0	39.5	-53.6	62.6	577.2	89.7	25.8	1.000014
74500.0	38.6	-53.1	61.0	577.9	90.7	26.4	1.000014
75000.0	37.7	-52.6	59.5	578.5	91.7	27.1	1.000013
75500.0	36.8	-52.1	58.0	579.2	91.5	27.8	1.000013
76000.0	35.9	-51.6	56.5	579.8	91.3	28.4	1.000013
76500.0	35.0	-51.2	55.0	580.4	91.1	29.1	1.000012
77000.0	34.3	-50.9	53.7	580.8	90.4	30.1	1.000012
77500.0	33.5	-50.7	52.4	581.1	89.7	31.1	1.000012
78000.0	32.7	-50.4	51.2	581.4	89.2	32.1	1.000011
78500.0	32.0	-50.2	50.0	581.7	89.0	33.2	1.000011
79000.0	31.2	-49.9	48.8	582.1	88.9	34.3	1.000011
79500.0	30.5	-49.7	47.6	582.4	88.7	35.4	1.000011
80000.0	29.8	-49.4	46.4	582.7	88.6	36.2	1.000010
80500.0	29.2	-49.1	45.3	583.1	88.8	37.1	1.000010
81000.0	28.5	-48.9	44.3	583.4	88.9	37.9	1.000010
81500.0	27.9	-48.6	43.2	583.8	88.9	38.5	1.000010
82000.0	27.2	-48.3	42.2	584.2	88.9	39.0	1.000009
82500.0	26.6	-48.0	41.2	584.5	89.0	39.6	1.000009
83000.0	26.0	-47.7	40.2	584.9	89.4	40.1	1.000009
83500.0	25.4	-47.5	39.2	585.3	90.1	40.7	1.000009

GEODETIC COORDINATES
33°16'12" LAT UEG
106°49'51" LONG DEG

INDEX
OF
REFRACTION

STATION ALTITUDE 4051.00 FEET SL
 24 JUNE 1961 0915 HRS MDT
 ASCENSION NO. 58

UPPER AIR DATA
 175030Z
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LONG DEG

TABLE 16 (Con't)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (IN)	WIND DATA KNOTS	INDEX OF REFRACTION
64000.0	24.9	-47.2			30.3	585.6	90.0	41.3	1.000009
64500.0	24.3	-46.9			37.4	580.0	91.1	41.8	1.000008
65000.0	23.7	-46.6			30.5	586.4	90.9	42.1	1.000008
65500.0	23.2	-46.3			35.0	586.7	90.8	42.4	1.000008
66000.0	22.7	-46.1			34.8	587.1	90.1	42.6	1.000008
66500.0	22.2	-45.8			34.0	587.4	88.1	42.6	1.000008
67000.0	21.7	-45.5			33.2	587.8	86.0	42.6	1.000007
67500.0	21.2	-45.2			32.4	588.2	84.1	42.6	1.000007
68000.0	20.7	-44.9			31.6	588.5	85.2	42.9	1.000007
68500.0	20.2	-44.6			30.9	588.9	86.2	43.2	1.000007
69000.0	19.8	-44.2			30.1	589.5	87.2	43.6	1.000007
69500.0	19.4	-43.5			29.4	590.3	89.1	44.4	1.000007
70000.0	19.9	-42.9			28.6	591.1	90.9	45.3	1.000006
70500.0	18.5	-42.5			27.9	592.0	92.7	46.3	1.000006
71000.0	18.1	-41.6			27.2	592.8	93.8	46.6	1.000006
71500.0	17.7	-41.0			26.6	593.6	94.6	46.7	1.000006
72000.0	17.3	-40.3			25.9	594.5	95.7	46.9	1.000006
72500.0	16.9	-39.7			25.3	595.3	96.5	45.6	1.000006
73000.0	16.6	-39.0			24.6	596.1	97.3	43.6	1.000005
73500.0	16.2	-38.4			24.0	596.9	98.1	41.6	1.000005
74000.0	15.8	-38.1			23.5	597.2	98.1	39.8	1.000005
74500.0	15.5	-38.0			23.0	597.4	97.4	37.9	1.000005
75000.0	15.2	-37.9			22.5	597.5	96.6	36.1	1.000005
75500.0	14.8	-37.8			22.0	597.6	95.5	35.5	1.000005
76000.0	14.5	-37.5			21.5	597.7	94.5	34.5	1.000005
76500.0	14.2	-37.7			21.0	597.8	93.5	33.5	1.000005

STATION ALTITUDE 4051.00 FEET MSL
24 JUNE 81 0915 HRS MDT
ASCENSION NO. 58

MANDATORY LEVELS
17500 30050
JALLEN

GEODETIC COORDINATES
33.16712 LAT LEG
106.49511 LONG LEG

TABLE 17

PRESSURE MILLIBARS	GLUTOPINITIAL FEET	TEMPERATURE		REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS
		AIR DEGREES	DEPMINT CENTIGRAVE			
450.0	4965.	25.9	8.4	33.	219.3	2.1
800.0	6706.	23.0	4.4	30.	267.0	5.4
750.0	8541.	20.2	0.8	27.	286.7	9.3
700.0	10475.	15.1	-1.0	33.	290.5	5.6
650.0	12516.	10.3	-7.6	28.	15.1	9.8
600.0	14680.	4.8	-6.6	37.	53.5	14.6
550.0	16983.	-1.5	-6.0	71.	66.7	10.2
500.0	19453.	-6.4	-12.3	6.5	61.3	14.9
450.0	22128.	-12.4	-19.2	57.	67.1	10.8
400.0	25049.	-18.2	-25.4	53.	33.5	11.5
350.0	28281.	-24.9	-37.3	30.	47.9	7.8
300.0	31896.	-33.7	-43.0	38.	5.5	12.1
250.0	36017.	-42.5				
200.0	40832.	-54.6				
175.0	43602.	-60.0				
150.0	46728.	-63.8				
125.0	50345.	-68.8				
100.0	54743.	-69.4				
80.0	59136.	-64.6				
70.0	61852.	-61.0				
60.0	65003.	-59.9				
50.0	68750.	-58.6				
40.0	73402.	-53.9				
39.0	79534.	-49.5				
25.0	83472.	-47.3				
20.0	88346.	-44.5				
15.0	94777.	-37.0				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

